



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Monday, November 26, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 773914954

Re: Permit Modification Approval for KATHY MAYHEW BRK 201H
47-009-00208-00-00

Extend lateral 7,042.36' to 8,193.88' and measured depth 13,704' to 14,768'

SWN PRODUCTION COMPANY, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

A handwritten signature in blue ink, appearing to read 'James A. Martin'.

James A. Martin
Chief

Operator's Well Number: KATHY MAYHEW BRK 201H
Farm Name: MAYHEW, KATHY LYNN & MICHAEL, ETAL
U.S. WELL NUMBER: 47-009-00208-00-00
Horizontal 6A New Drill
Date Modification Issued: 11/26/2018

Promoting a healthy environment.

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC 49447757 Brooke 1- Buffalo 247-Bethany/641
Operator ID County District Quadrangle

2) Operator's Well Number: Kathy Mayhew BRK 201H Well Pad Name: Kathy Mayhew PAD

3) Farm Name/Surface Owner: Kathy Lynn & Michael, ETAL Public Road Access: Apple Pie Ridge Road

4) Elevation, current ground: 1281' Elevation, proposed post-construction: 1281'

5) Well Type (a) Gas Oil Underground Storage

Other

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No yes

[Handwritten signature] 5-21-18

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation- Marcellus, Up-Dip Well to the North, Target Top TVD- 5966', Target Base TVD- 6007', Anticipated Thickness- 41', Associated Pressure- 3905

8) Proposed Total Vertical Depth: 5995'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14768'

11) Proposed Horizontal Leg Length: 8193.88'

12) Approximate Fresh Water Strata Depths: 371'

13) Method to Determine Fresh Water Depths: Nearby Water Well

14) Approximate Saltwater Depths: 623' Salinity Profile

15) Approximate Coal Seam Depths: 454'

16) Approximate Depth to Possible Void (coal mine, karst, other): possible void 454'

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No

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(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	501'	501'	480 sx/CTS
Coal							
Intermediate	9 5/8"	New	J-55	36#	1798'	1798'	686 sx/CTS
Production	5 1/2"	New	HCP-110	20#	14768'	14768'	Loc: 856x 101 2032sx/100' inside Int
Tubing							
Liners							

Handwritten signature and date: 5.21.18

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Max. Associated Surface Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate any potential zones between and including the Benson to Marcellus. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 80 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 8.20

22) Area to be disturbed for well pad only, less access road (acres): 5.96

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

24) Describe all cement additives associated with each cement type:

See Attachment ***

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25) Proposed borehole conditioning procedures:

All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and down continuing until operator is satisfied with borehole conditions.

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*Note: Attach additional sheets as needed.

Southwestern Energy Company

Proposed Drilling Program

Well: KATHY MAYHEW BRK 201 Re-entry Rig: TBD
 Field: PANHANDLE FIELD WET Prospect: PANHANDLE
 County: BROOKE State: WV
 SHL: 40.1923 Latitude -80.6227 Longitude
 BHL: 40.2138 Latitude -80.6408 Longitude
 KB Elev: 1,308 ft MSL KB: 26 ft AGL GL Elev: 1,281 ft MSL



Coal Void @ 454' TVD
 TOC Lead at 1,818' MD
 TOC Tail at 5,620' MD

C-750
5-21-18

Tubular Detail

	Size (in)	Weight	Grade	From	To
Conductor	20	94.0 #	H-40	0'	100'
Surface	13.375	48.0 #	H-40	0'	501'
Intermediate	9.625	36.0 #	J-55	0'	1,798'
Production	5.5	20.0 #	HCP-110	0'	14,768'

Cement Detail

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	480	A	15.6
Intermediate	686	A	15.6
Production Lead	850	A	15.6
Production Tail	2032	A	15.6

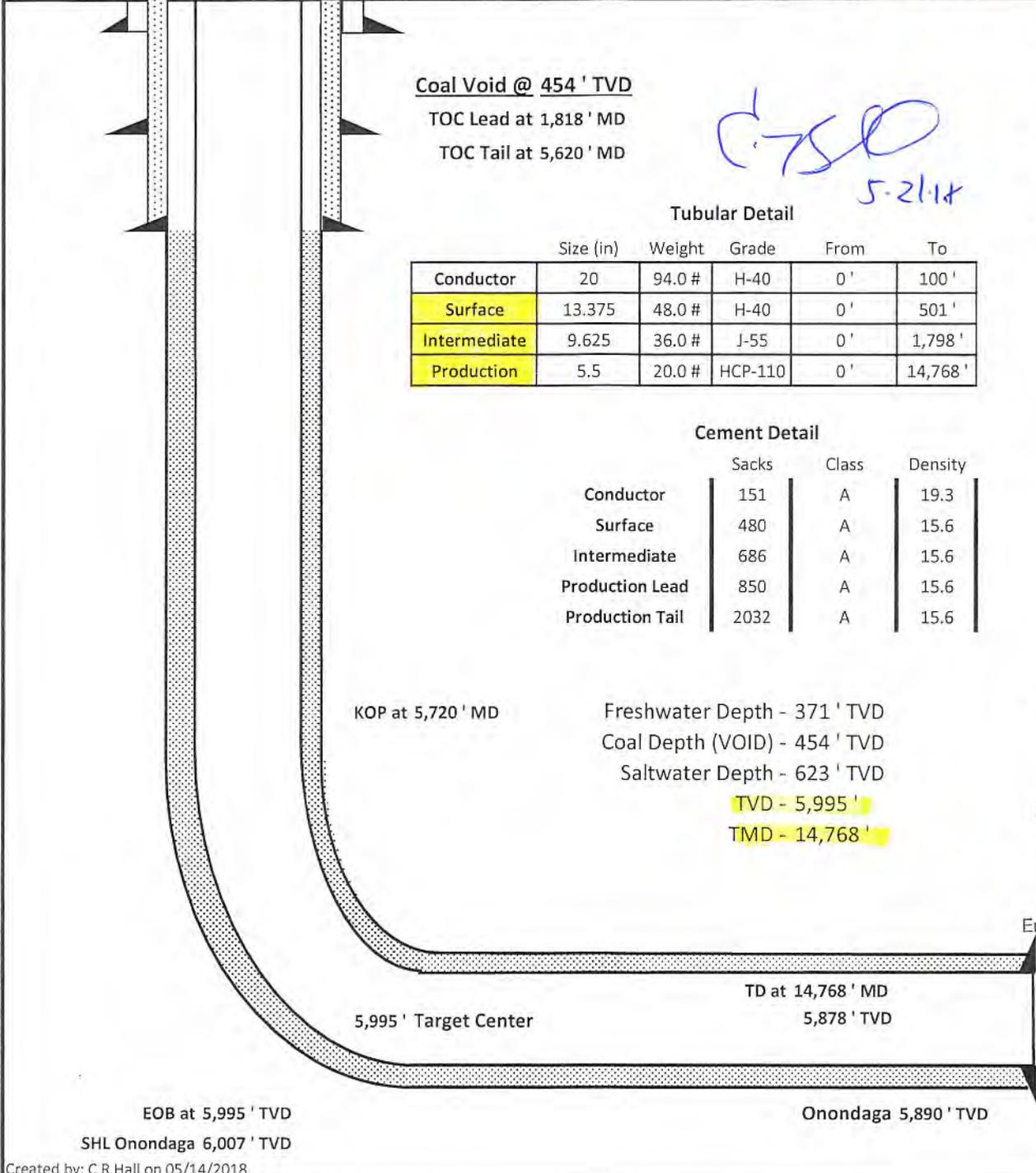
0' to 521' Air / Mist
 521' to 1,818' Air / Mist
 1,818' to 5,720' Air / Mist

Air
 TD at 5,720'

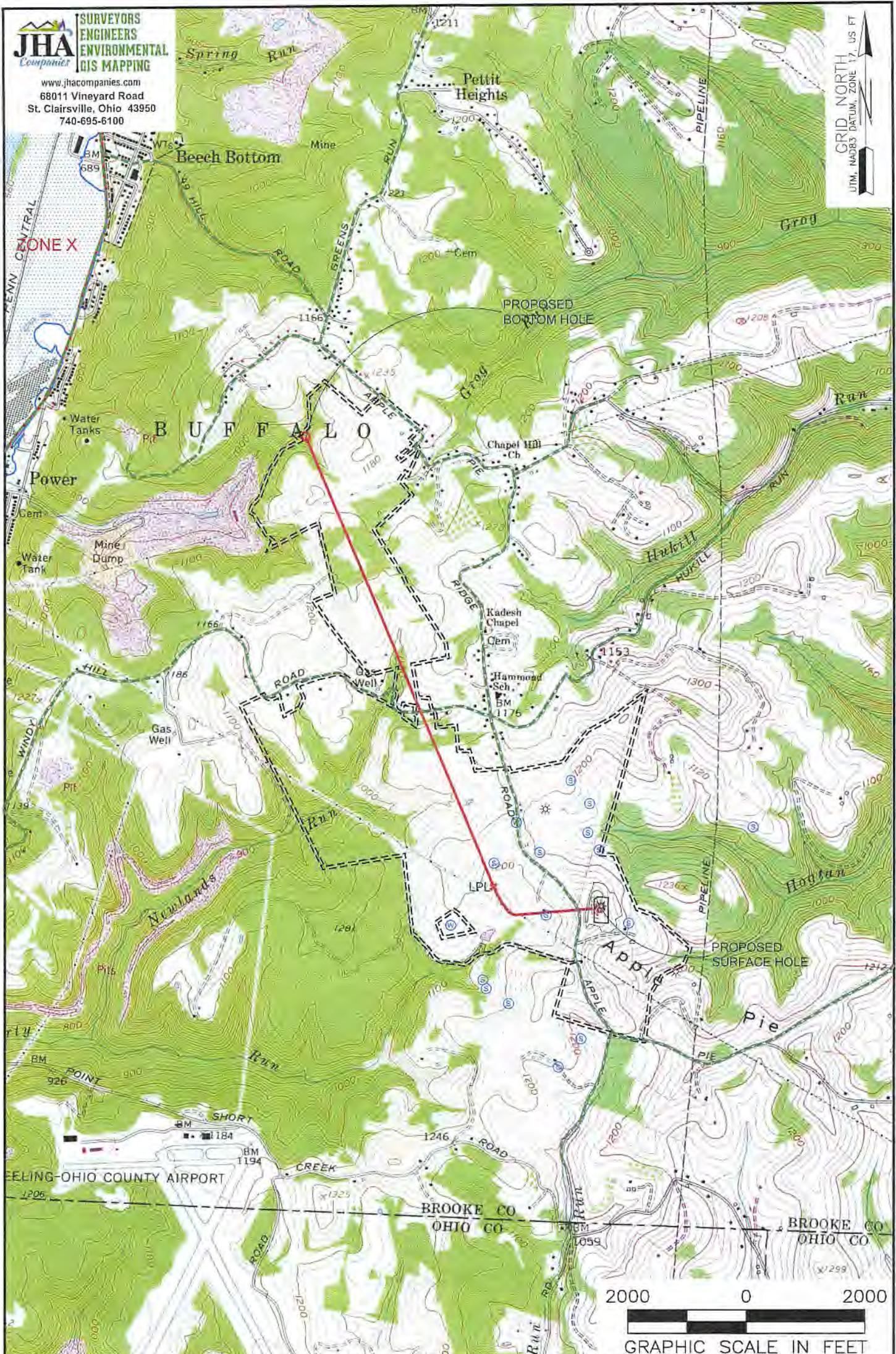
5,720' to 6,573' 12.0 - 12.5 ppg

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6,573' to 14,768' 12.0 - 12.5 ppg



Created by: C R Hall on 05/14/2018



NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: KATHY MAYHEW BRK	WELL # 201H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE BROOKE - 009	DISTRICT; BUFFALO	
SURFACE OWNER: KATHY LYNN & MICHAEL MAYHEW, ET AL	USGS 7 1/2 QUADRANGLE MAP NAME BETHANY, WV & TILTONSVILLE, OH		

LATITUDE: 40°15'00" BOTTOM HOLE | 4379'

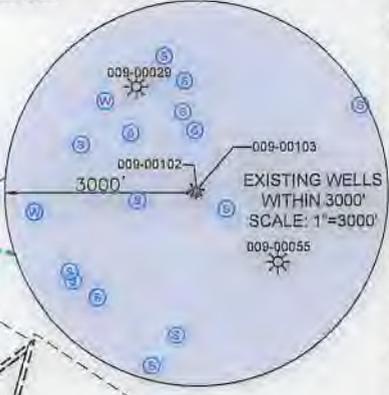
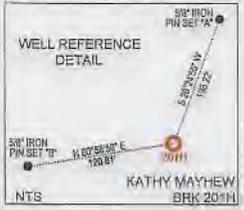
JHA Companies
SURVEYORS ENGINEERS ENVIRONMENTAL GIS MAPPING
 www.jhacompanies.com
 68011 Vineyard Road
 St. Clairsville, Ohio 43950
 740-695-6100

LATITUDE: 40°12'30" SURFACE HOLE | 10981'

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

GRID NORTH
 UTM, NAD83 DATUM, ZONE 17, US FT



LINE	BEARING	DISTANCE
L1	N 22°45'59" E	1932.50'
L2	N 03°58'06" W	2551.49'

SURFACE HOLE LOCATION (SHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4449168.94
 EASTING: 532116.75

LANDING POINT LOCATION (LPL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4449267.69
 EASTING: 531567.66

BOTTOM HOLE LOCATION (BHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4451552.51
 EASTING: 530561.49



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2041

SWN Production Company, LLC
SWN Production Company, LLC

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: KATHY MAYHEW BRK 201H API WELL #: 47 009 00208 STATE COUNTY PERMIT
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WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: UPPER OHIO SOUTH	ELEVATION: 1,281.2'
DISTRICT: BUFFALO	COUNTY: BROOKE	QUADRANGLE: BETHANY, WV & TILTONSVILLE, OH
SURFACE OWNER: KATHY LYNN & MICHAEL MAYHEW, ET AL	ACREAGE: ±84.74	
OIL & GAS ROYALTY OWNER: KATHY LYNN & MICHAEL MAYHEW, ET AL	ACREAGE: ±84.74	
DRILL <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/>	CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY)	
TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 5,995' TVD 14,768.0' TMD	

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300	ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378	CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ☼ EXISTING / PRODUCING WELLHEAD LPL ✕ LANDING POINT LOCATION W EXISTING WATER WELL S EXISTING SPRING --- PUBLIC ROAD --- SURVEYED BOUNDARY = LEASE BOUNDARY --- PROPOSED PATH	REVISIONS: DATE: 05-16-2018 DRAWN BY: D. REED SCALE: 1" = 2000' DRAWING NO: 2018-341 WELL LOCATION PLAT
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WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	KATHY LYNN & MICHAEL MAYHEW, ET AL (S/R)	03-B42-0027.0000
TRACT	SURFACE OWNER	TAX PARCEL
2	JAY GLEN COLLINS	03-B41-0080.0000
3	JOSEPH P., SR. & ROBIN M. SCRIP	03-B41-0080.0002
4	SANDRA W. BUTLER	03-B41-0071.0000
5	WILLIAM & DAWNA MILLER	03-B41-0061.0000
6	SANDRA BUTLER	03-B41-0068.0000
7	ROBERT LEE & DELMA LOU HUFFMAN	03-B41-0067.0000
8	CARL & JUDITH SPENCER	03-B41-0065.0000
9	ERNEST F. & JOANNE CAPP	03-B41-0064.0000
10	MARK PHILLIPS (1/8), GAIL ATKINSON (1/8) & ET AL	03-B36.0107.0000
11	WINDSOR POWER HOUSE COAL COMPANY	03-B36-0104.0000

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	JOSEPH S. & JANE M. BUREK	03-B47-0019.0000
B	JAMES LAMONT	03-B47-0001.0000
C	BETSY D. TUSTIN	03-B47-0002.0001
D	DALE T. & MARY R. WOOD	03-B46-0046.0000
E	DALE T. & MARY R. WOOD	03-B41-0084.0000
F	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0082.0000
G	ROBERT J., JR. & LINDA MILLER	03-B41-0047.0000
H	KARL DOUGLAS STEPHENS	03-B41-0054.0002
I	WILLIAM & DAWNA MILLER	03-B41-0061.0002
J	KEVIN S. WEEKLEY	03-B41-0056.0000
K	CLARA ILENE DAVIS	03-B41-0061.0003
L	ERNEST & JOANN PAULINE CAPP	03-B41-0061.0001
M	ERNEST W. & MARIANNE CAPP	03-B41-0062.0000
N	ERNEST & JOANN P. CAPP	03-B41-0063.0000
O	EMILY J. HUFFNER	03-B41-0065.0001
P	CARL E. & JUDITH SPENCER	03-B41-0066.0000
Q	SANDRA BUTLER	03-B41-0061.0004
R	ERNEST & JOANN PAULINE CAPP	03-B41-0053.0000
S	ERNEST F. & JOANNE CAPP	03-B41-0052.0000
T	WINDSOR POWER HOUSE COAL COMPANY	03-B41-0049.0000
U	WINDSOR POWER HOUSE COAL COMPANY	03-B36-0103.0000
V	WINDSOR POWER HOUSE COAL COMPANY	03-B36-0101.0000
W	WINDSOR POWER HOUSE COAL COMPANY	03-B36L-0036.0000
X	KEITH L. HAMILTON	03-B36L-0035.0000
Y	KEITH HAMILTON	03-B36L-0037.0000
Z	FLOYD R. & DORIS M. LOUGHRIE	03-B36L-0038.0000
AA	BRIAN L. TESLOVICH	03-B36-0145.0000
AB	LYNN COULTER, DAVID COULTER & ET AL	03-B36-0143.0000
AC	BEECH BOTTOM VOLUNTEER FIRE DEPARTMENT	03-B36-0105.0000
AD	TREVOR SEAN RICHMAN	03-B36-0106.0000
AE	MARK A. & MELODY J. ADAMS	03-B36-0142.0000
AF	FREDERICK B. & JULIE M. DAVIS	03-B36-0108.0000
AG	DAVID MCCLURE	03-B36-0110.0000
AH	CAROL L. DUFFY	03-B36-0113.0000
AI	LORETTA JOAN BASIL	03-B41-0099.0000
AJ	ERNEST F. & JOANNE P. CAPP	03-B41-0098.0000
AK	ELIZABETH ELLEN FLUHARTY	03-B41-0095.0000
AL	DANIEL R. GORBY	03-B41-0061.0006
AM	COREY CONLEY	03-B41-0061.0005
AN	SANDRA W. BUTLER	03-B41-0061.0009
AO	SANDRA BUTLER	03-B41-0069.0000
AP	RONALD C. BUTLER, CHRISTINA BUTLER & JAMES R. BUTLER	03-B41-0070.0000
AQ	SANDRA W. BUTLER	03-B41-0072.0000
AR	SANDRA W. BUTLER	03-B41-0078.0000
AS	JAY G. COLLINS	03-B41-0079.0000
AT	SHAWN M. SINES	03-B41-0085.0000
AU	HENRY MIKELS & BONNIE J. BURKETT	03-B41-0086.0001
AV	JASON D. & MARY E. WHITE	03-B41-0086.0000
AW	ROBERT D., II & LESLIE C. HILDEBRAND	03-B42-0063.0000
AX	FRANK G. & KELLY L. AINSCOUGH	03-B42-0071.0000
AY	HENRY HEINZROTH	03-B42-0032.0000
AZ	LUTHER GRIZZEL	03-B42-0030.0000
BA	LUTHER GRIZZEL	03-B42-0031.0000
BB	LUTHER GRIZZEL	03-B42-0029.0000
BC	ELIZABETH ELLEN FLUHARTY	03-B47-0018.0000
BD	MARK & TRINA PROVENZANO	03-B41-0080.0001

REVISIONS:

COMPANY:

SWN
Production Company, LLC

OPERATOR'S KATHY MAYHEW

DATE: 05-16-2018

WELL #: BRK 201H

DRAWN BY: D. REED

DISTRICT:
BUFFALO

COUNTY:
BROOKE

STATE:
WV

SCALE: N/A

DRAWING NO: 2018-341

WELL LOCATION PLAT

WW-6A1
(5/13)

Operator's Well No. Kathy Mayhew BRK 2014

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See Exhibit A				

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: SWN Production Co., LLC

By: 

Its: Staff Landman

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC Operator
 Kathy Mayhew BRK 201H
 Brooke County, West Virginia

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0B42-0027-0000-0000	Kathy Lynn Mayhew and James Michael Mayhew	Chesapeake Appalachia, L.L.C.	12.50%	10/439
			SWN Production Company, LLC		30/480
		Andrew G. Romanyak	Chesapeake Appalachia, L.L.C.	12.50%	10/441
			SWN Production Company, LLC		30/480
Regina Marie Vancamp	Chesapeake Appalachia, L.L.C.	12.50%	10/438		
	SWN Production Company, LLC		30/480		
2)	03-0B41-0080-0000-0000	Jay G. Collins and Barbara J. Collins	Fortuna Energy Inc.	12.50%	9/864
			Range Resources – Appalachia, LLC		10/159
			Chesapeake Appalachia, LLC		10/552
			SWN Production Company, LLC		30/480
3)	03-0B41-0080-0002-0000	Jay G. Collins and Barbara J. Collins	Fortuna Energy Inc.	12.50%	9/864
			Range Resources – Appalachia, LLC		10/159
			Chesapeake Appalachia, L.L.C.		10/552
			SWN Production Company, LLC		30/480
4)	03-0B41-0071-0000-0000	Sandra Winona Butler	Chesapeake Appalachia, L.L.C.	18.00%	17/523
			SWN Production Company, LLC		30/480
5)	03-0B41-0061-0000-0000	William Miller and Dawna Miller	Chesapeake Appalachia, L.L.C.	17.00%	27/280
			SWN Production Company, LLC		30/480
6)	03-0B41-0068-0000-0000	Sandra Winona Butler	SWN Production Company, LLC	14.00%	33/252
7)	03-0B41-0067-0000-0000	Robert Lee Huffman and Delma Lou Huffman	SWN Production Company, LLC	14.00%	33/161
8)	03-0B41-0065-0000-0000	Carl Spencer and Judith Spencer	SWN Production Company, LLC	14.00%	33/267
9)	03-0B41-0064-0000-0000	Ernest F. Capp & Joann P Capp	Chesapeake Appalachia, L.L.C.	18.00%	10/103
			SWN Production Company, LLC		30/480
10)	03-0B36-0107-0000-0000	Gail Phillips Atkinson	Chesapeake Appalachia, L.L.C.	18.00%	19/186
			SWN Production Company, LLC		30/480
		George W. Grimm	Chesapeake Appalachia, L.L.C.	18.00%	19/174
			SWN Production Company, LLC		30/480
Mark Phillips	Chesapeake Appalachia, L.L.C.	18.00%	19/180		
	SWN Production Company, LLC		30/480		

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC., Operator
Kathy Mayhew BRK 201H
Brooke County, West Virginia

	Alfred Schell	Chesapeake Appalachia, L.L.C.	18.00%	18/329	
		SWN Production Company, LLC		30/480	
11)	03-B36-0104-0000-0000	CNX Gas Company, LLC	SWN Production Company, LLC	21.00%	48/112

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Environmental Protection



SWN Production Company, LLC
P O Box 12359
Spring, Texas 77391-2359
www.swn.com

September 18, 2018

Ms. Laura Adkins
WV DEP Office of Oil & Gas
601 57th St., SE
Charleston, WV 25304

RE: SWN's proposed New Well: Kathy Mayhew BRK 1H, Kathy Mayhew BRK 3H, & Kathy Mayhew BRK 201H in Brooke County, West Virginia, Drilling under Hukill Run Road & Beech Bottom Hill Road.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill Hukill Run Road & Beech Bottom Hill Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

Gary Nuckolls
Staff Landman
SWN Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

RECEIVED
Office of Oil and Gas

SEP 19 2018

WV Department of
Environmental Protection